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09/802,726IN THE CLAIMS

All pending claims are rewritten below in clean form pursuant to Rule 1.121 (4)(c). Please amend claim 1 as below. Please add new claims 31-38 as below.

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a1

1. (Amended) A semiconductor component comprising:
a drain region having a trench with first and second sides, a portion of the drain region having a first conductivity type and a first charge density;
a control electrode in the trench;
a channel region of the second conductivity type in the drain region and adjacent to the trench; and
a first region in the drain region, having a second conductivity type, and having a second charge density balancing the first charge density.

2. (Amended) The semiconductor component of claim 1, wherein:
the drain region has a first surface and a second surface;
a first portion of the first region is at the first side of the trench and extends along a height of the drain region from the first surface of the drain region toward the second surface of the drain region; and
a second portion of the first region is at the second side of the trench and extends along the height of the drain region from the first surface of the drain region toward the second surface of the drain region.

3. The semiconductor component of claim 2, wherein the first region is discontinuous.

4. The semiconductor component of claim 3, wherein the first portion of the first region is discontinuous.

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5. The semiconductor component of claim 2, wherein the first region is continuous.

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6. (Amended) The semiconductor component of claim 5, wherein the first region is continuous from the first surface of the drain region toward the second surface of the drain region.

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7. (Amended) The semiconductor component of claim 2, wherein:
the first region is contiguous with the first surface of the drain region; and
the trench is in the second surface of the drain region.

8. The semiconductor component of claim 2, wherein the channel region is between the first and second portions of the first region.

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9. (Amended) The semiconductor component of claim 1, further comprising an electrically insulative layer in the trench between the drain region and the control electrode.

10. The semiconductor component of claim 1, wherein the control electrode is located only in the trench.

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11. (Amended) The semiconductor component of claim 10, wherein:
the drain region has a first surface and a second surface;
the trench is in the second surface of the drain region; and
the semiconductor component further comprises a second region in the drain region, at the second surface of the drain region, having the first conductivity type, and contiguous with the trench.

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12. (Amended) The semiconductor component of claim 1,
wherein:
the drain region has a first surface and a second
surface;
the trench is in the second surface of the drain
region; and
the control electrode overlaps the second surface of
the drain region.

a4

13. (Amended) The semiconductor component of claim 12,
further comprising a second region in the drain region, at
the second surface of the drain region, having the first
conductivity type, and adjacent to and non-contiguous with
the trench.

14. (Amended) The semiconductor component of claim 1,
wherein the trench extends into the drain region deeper than
the channel region.

15. The semiconductor component of claim 1, wherein the
channel region is absent underneath the trench.

16. The semiconductor component of claim 1, wherein the
first region is absent underneath the trench.

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cont

17. (Amended) The semiconductor component of claim 1,
wherein the portion of the drain region is located under the
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18. (Amended) The semiconductor component of claim 1, wherein:

the drain region has a first surface and a second surface;

a first portion of the first region is at the first side of the trench and extends along a height of the drain region from the first surface of the drain region toward the second surface of the drain region;

a second portion of the first region is at the second side of the trench and extends along the height of the drain region from the first surface of the drain region toward the second surface of the drain region; and

the portion of the drain region is located between the first and second portions of the first region.

as
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31. (New) A semiconductor component comprising:

a substrate having a first surface formed with a first trench;

a drain region having a first conductivity type and formed over the substrate to define a second trench; and

a charge balancing region having a second conductivity type and formed adjacent to the drain region and along a sidewall of the first trench.

as
amended

32. (New) The semiconductor component of claim 31 further comprising a dopant layer of the second conductivity type disposed within the first trench adjacent to the charge balancing region.

33. (New) The semiconductor component of claim 32, wherein the dopant layer is disposed between the sidewall of the first trench and the charge balancing region.

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34. (New) The semiconductor component of claim 33, further comprising a channel region formed adjacent to a side of the second trench.

35. (New) The semiconductor component of claim 33, wherein the dopant layer includes in-situ boron-doped polysilicon or spin-on glass.

36. (New) The semiconductor component of claim 33, wherein the dopant layer includes doped boron nitride.

*all
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37. (New) The semiconductor component of claim 34 further comprising a control electrode formed within the second trench.

38. (New) The semiconductor component of claim 34 further comprising a source region formed at the first surface of the substrate adjacent to the channel region.
